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EXPERIMENTS UPON THE STRENGTH OF ANTISEPTICS.

BY ARTHUR T. CABOT, M. D.

SURGICAL antiseptic preparations may be divided into two classes: (1) those which are meant to be actively destructive to the lower organisms which cause putrefaction, and (2) those which oppose the approach of these organisms to wounded parts already aseptically. Among the first class are to be counted the solutions for washing parts to be operated on, for cleansing wounds already exposed to the air, and for furnishing an antiseptic shower (spray) over wounds during operation and exposure. The second class comprises the gauze and cotton and the various oils and salves used to protect wounds from the action of the septic organisms in the air.

It is with the antiseptics of the first class, with the actively destructive antiseptics, that this paper has to do. Preparations of this class to be effective must act quickly. Whether they be used to destroy the putrefactive germs in a wound long exposed to the air, or those just settling out of the air upon a fresh wound, they have but a short time during which they can act with their full vigor, being in either case rapidly diluted and neutralized by the blood and exudations from the wounded surface.

The power of an antiseptic solution is usually tested by immersing in it some putrescible substance,¹ or by adding it to a sugar solution into which a ferment is also introduced,² and then noticing its effect in hindering putrefaction and fermentation. These tests are defective in that they give us no idea of the rapidity of action of the antiseptic. Further, the more volatile antiseptics, which, on account perhaps of their volatility, are rapid in their action, after destroying the germs existing in the fluids would escape, leaving the solution exposed to the germs of the air, while those of less volatility and slower action would offer a much longer protection and might well be used in the protective preparations of the second class. Another not uncommon test for an antiseptic is the observation under a microscope of its power of arresting

¹ Billroth, *Untersuchungen ueber Coccobacteria septica*, page 205.

² Dr. L. Lewin, *Das Thymol, ein Antisepticum und Antifermentativum*, Virchow's Archiv, B. 56, S. 164.

the movements of the bacteria in a foul solution.¹ We have, however, no proof that the activity of the bacteria is a measure of their power of exciting putrefaction, and many quiet forms are capable of inducing fermentative changes. In endeavoring to apply this test, too, I have found the active movements of the bacteria checked by solutions so dilute that little or no destructive antiseptic action could be claimed for them.

Finally, the clinical trial of an antiseptic, though it will lead finally to a tolerably correct appreciation of its worth, is a slow and uncertain means of judging, involving as it does so many varying conditions.

The method which has been used in the following tests avoids, I think, the objections which may be made to all of these. It is as follows:—

Ten cc. of the antiseptic to be tested are added to three cc. of a foul solution. After a certain measured time, two drops of the resulting mixture are transferred to an aseptic solution, which is carefully protected from the air, put aside, and watched for the first evidences of putrefaction. Suppose the putrefactive elements, be they bacteria or chemical ferments, have preserved their vitality during this time of contact with the antiseptic; they are released from further antiseptic action when these two drops mix with, and are diluted in, the aseptic solution, and are then free to set up putrefactive changes in it. If, therefore, putrefaction appears in the test solution, we know that the antiseptic had not acted long enough upon the germs of putrefaction to destroy them. We repeat the experiment with a longer time of exposure, and so proceed till we reach the time that proves sufficient for the destruction of the putrefactive elements, and we then find that the aseptic solution continues clear and sweet. The sign of putrefaction which was relied upon in these experiments was the appearance of cloudiness, due to the presence of micro-organisms, and their presence or absence was always verified by the microscope.

I have prepared a table of these "personal equations" of a few of the better known antiseptics. Before giving it, however, I will detail briefly the minutiae of the tests of which I have described the general features and objects.

The aseptic solution is prepared by boiling several small pieces of meat with a large quantity of water in a glass flask purified by exposure to the flame of an alcohol lamp. This flask is stopped with a rubber cork perforated by two glass tubes for convenience of decanting. The tubes are bent downwards, and the ends are carefully protected with carbolized gauze. The cork and tubes are carefully cleansed beforehand with carbolic acid. The resulting solution, if made with lean meat, settles clear; if the meat is fat, the solution is rendered cloudy by fine oil drops, and must be prepared again.

This solution when used is decanted into wine-glasses previously cleaned by exposure to alcohol flame, and these are then covered with inverted watch-glasses, and the whole by bell-glasses, all of which have likewise been exposed to high heat.

¹ Billroth, *loc. cit.*, page 210.

The solution thus protected will keep for an indefinite length of time without a sign of putrefaction.

It is into glasses thus prepared that the minute quantities of the mixed antiseptic and foul solution are transferred, and in them the minutest changes in the fluid can be easily observed.

To anticipate some of the objections which may be made as to the accuracy of these experiments, I would say that I expected to meet with great inconsistencies in my results, due to the accidental entry of germs into my test glasses. Contrary, however, to this expectation, my results were very uniform and constant, although the experiments were distributed over a space of two years. In each case the result obtained was verified by several additional experiments.

Of the antiseptics examined the rapidity of action ("personal equation") was determined as follows:—

Acidi carbolic	1-20 ¹	. . . . .	5 seconds.
Liquor sodæ chlorinatæ	1-10	. . . . .	15 30 seconds.
Acidi salicylici	1-240	. . . . .	3 minutes.
Thymol	1-500	. . . . .	3 minutes.
Thymol	1-1000	. . . . .	4 minutes.
Acidi carbolic	1-40	. . . . .	4 minutes.
Potas. permang.	1-960	. . . . .	over 6 minutes.
Zinci chloridi	1-12	. . . . .	over 6 minutes.
Alum acetatis ²		. . . . .	over 6 minutes.

It will be seen by this table that carbolic acid in the strength of one part to twenty of water is almost instantaneous in its action. At least five seconds are required for the thorough mixing of the acid with the foul solution, and after this the resulting mixture is incapable of exciting putrefaction.

Next to this in efficacy comes the solution of chlorinated soda, made by adding one part of the liquor sodæ chlorinatæ to ten parts of water. This I found remarkably certain in its action.

Of the action of salicylic acid I would say that it was extremely uncertain. Some specimens of the acid seemed wholly destitute of antiseptic power. The result recorded above was obtained with the best of a number of samples procured from different reliable druggists.

The solution of this strength could only be made by the aid of a small quantity of alcohol. Salicylic acid is said to be soluble in three hundred parts of water, but many trials showed that this solution was impossible without the aid of heat, and that part, at least, of the acid crystallized out in two or three days.

Although thymol in solution of one part to one thousand of water is equally effective with carbolic acid one to forty, yet the solution of double this strength, made with the addition of a little glycerine and alcohol, falls far short of the stronger preparation of the rival drug.

¹ The numbers in this table indicate the parts of water to one part of the antiseptic.

² Preparation recommended by Mr. Paul Burns in London Medical Record, April 15, 1879, page 168.

Permanganate of potash was noticed to effect the destruction of the minuter organisms in a comparatively short time (three to four minutes), but some larger forms of penicillium (among others penicillium glaucum) resisted its action for a much longer time.

Lastly, I would notice the inefficient action of chloride of zinc, which many distinguished surgeons¹ have preferred to any other preparation for cleansing deep wounds long exposed to the air. I can only surmise that the action on which its reputation is based is upon the tissues themselves rather than upon the organisms, and that it closes the channels of absorption against the entry of septic poisons much as a light cauterization with nitrate of silver does.

I am led to conclude, then, that of the preparations examined the five per cent. solution of carbolic acid is the most proper to use when a rapid action is desired, notably in the shower or spray thrown over a wound during operation and dressing.

When carbolic poisoning is feared or already present, the solution of chlorinated soda is by far the most powerful substitute that can be used. The rapidity of action of this latter antiseptic renders it well adapted for use as a gargle in diphtheria, or as a mouth wash when a foul discharge is present.

When a strongly antiseptic action is not required, as in washing a wound successfully aseptic, or when long contact of the antiseptic with the wound is probable, as in washing out a cavity with a continued current, some of the milder antiseptics may be safe and agreeable substitutes.

Some preparations clinically ranking as antiseptics owe their reputation to other powers than that of destroying septic material.

THE TREATMENT OF FRACTURE OF THE LOWER END OF THE RADIUS.²

BY R. J. LEVIS, M. D.,

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THE primary line of separation in the characteristic fracture of the carpal end of the radius is, with little tendency to deviation, *transverse* in its direction. Associated and secondary lines of fracture are generally those of comminution of the lower fragment, and are caused by the angular edge of compact tissue on the posterior aspect of the superior fragment being driven into the lower fragment and splitting it, usually in directions towards its articular surface. The displacement of the lower fragment is towards the dorsal aspect of the fore-arm, its

¹ Lister, Volkmann, and others.

² Abstract of a paper read before the Pennsylvania State Medical Society.

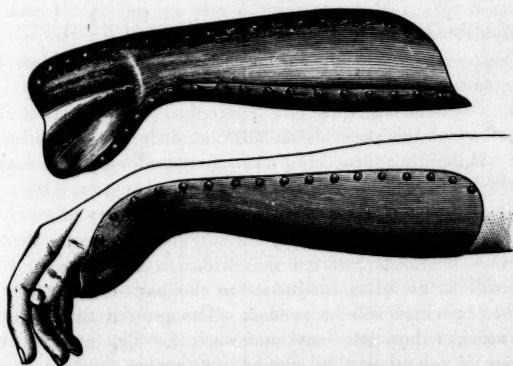
articular surface being inclined so as to be abnormally presented backwards and upwards.

The mechanism of the fracture is simple. By a fall the weight of the body is suddenly thrown upon the hand, which undergoes extreme extension. If the force be sufficiently great, a fracture of the radius ensues, being caused by an act of leverage, or *transverse strain*. This direction of force has also been termed *cross-breaking strain*. Displacement of the fragments may not take place at all, or it may exist to the extent of complete separation of the surfaces from each other, the deformity varying with the force applied and the retaining influence of surrounding structures.

In reviewing the principles of treatment, the first essential is the *complete reduction of the displacement*. This is necessarily directed to the lower fragment. The reduction can usually be effected under the influence of ether by *strong extension applied to the hand, associated with forced flexion of the wrist*. The return of the deformity may be prevented by maintaining partial flexion of the wrist by a suitable splint, a pad being placed upon the dorsal surface of the fragment to retain it in place. This will accomplish the result, except where vertical splitting or extensive comminution of the fragment is present.

In order to fulfill the indications for treatment splints of various kinds have been devised, but some of those in general use ignore the

FIG. 1.



Splint for fracture of the lower end of the radius.

anatomical relations of the part, and hence often fail in obtaining a satisfactory result in the treatment of the fracture. In applying a splint it is essential that proper allowance should be made for the curvature of the lower portion of the radius, the concavity of which is on the anterior or palmar aspect of the bone. In the splint which I have

devised and herewith present to the society, it will be noticed that this curvature is regarded, insuring the fitting of the dressing to the forearm. The fixing of the thenar and hypothenar eminences of the hand in their moulded beds maintains the splint immovably in its correct position with reference to the radial curve. The splint is made of copper, which is readily bent to suit the peculiarities of size and form in individual cases. A series of elevations or semi-punctures is placed along the edge, so as to keep the bandage from slipping. The surface of the metal is tinned, so as to prevent chemical change or rust.

As a lining to the splint when applied, a piece of woven lint or of cotton or woollen flannel is, as a rule, all that is necessary. No dorsal splint is needed, but the small compress already mentioned is placed on the lower fragment to prevent it slipping upwards and backwards. The splint is retained in place by an ordinary two and a half to three inch roller bandage.

This splint, being easily adapted to peculiarities of shape of the forearm, has the positive merit of being applicable to all cases of fracture of the lower end of the radius, and also to many other injuries in the neighborhood of the wrist-joint. It is almost indestructible, and as now supplied is quite inexpensive. It can be obtained by addressing any of the leading surgical instrument makers.

CARE OF THE INSANE IN MASSACHUSETTS.

BY WALTER CHANNING, M. D.

IN an essay read in April last before the Suffolk District Medical Society, of which this paper is an abstract, I showed by statistics that the time was rapidly approaching when increased hospital accommodation would be needed for the insane of Massachusetts. Brevity prevents a publication of these statistics, but the history of our hospitals since the essay was read has amply verified the statements then made. It may now be safely asserted that within a short time our insane hospitals will be as full as in justice to the patients they should be, and further provision will be needed. The present time is none too soon to consider how this may be furnished. The most satisfactory results may, in my opinion, be arrived at by taking the following steps: (1) building a general hospital for the insane; (2) making some of the existing hospitals into institutions more especially for the chronic insane; (3) building a private or middle-class hospital; (4) building a criminal lunatic asylum and (5) building an inebriate institution. Each one of these suggestions may be considered separately.

(1.) The first hospital built should be for Boston patients chiefly,

and would probably prosper best under state supervision, thus being guided by a wider policy and less liable to be managed politically. It has been urged that Boston should care for her own insane, but judging by the management of the insane in New York, Brooklyn, and Philadelphia there is little encouragement in this direction. The hospital should be not more than ten miles out of Boston, and five would be better, not only because it would receive Boston patients chiefly, but also because, as shown by Mr. F. B. Sanborn,¹ the population in the northeastern or Boston district of Massachusetts is nearly three times as great as in either the western, middle, or southeastern districts. It should be situated on a main line of railroad, and as accessible as possible, the cost of reaching it and the cost of transporting supplies to it being thereby much diminished. It should accommodate three hundred patients, and receive only recent cases. A most valuable addition would be a small, detached block, officially connected with it, on the Boston City Hospital grounds. To this branch cases could be sent for detention and examination, instead of going as now to the Tombs. Furthermore, it would serve a most valuable purpose as a place for clinical instruction. A somewhat similar plan has long been successfully carried out at La Charité at Berlin.

(2.) Making some of the present hospitals more especially institutions for the chronic insane. On the occupation of this new hospital the nearest existing hospital should be utilized for the chronic patients, receiving by preference the overflow from the new hospital, which would retain no patient over two years. The chronic hospital could receive a small number of recent cases from the immediate neighborhood, but to all intents and purposes it would be for chronic cases alone. Some of our hospitals could be enlarged to accommodate an increased number, but rather than do this it would be better to put up detached blocks. Many patients could be easily cared for in these blocks, and lead regular, comfortable, and happy lives, but little suggestive of the asylum; yet they could be under hospital discipline, and so situated that any unusual mental or physical manifestation could be at once reported, and if necessary treated at the central hospital. All of our hospitals are already largely filled with chronic patients, and the change to chronic institutions could be made gradually and easily. Finally, a point would be reached where added buildings would be necessary, and patients would be received principally by transfer. This should be the rule, but, as I have before said, a small number of patients becoming suddenly and violently insane could be admitted as a matter of convenience.

If we assume, then, that our first new hospital is built at Lynn, Newton, Dedham, or some other town near Boston, recent cases will be sent

¹ Tenth Annual Report of the Board of State Charities.

to it, and Danvers, the nearest hospital, having been made into a chronic hospital, is relieved of this class. The latter receives transfers, as its numbers diminish, from South Boston and the other hospitals, and begins to put up cheap cottages. In time Danvers will take all cases of over two years' duration from the acute hospital, and thus there will be two hospitals in the northeastern part of the State, which though separated by distance will be practically one institution. As circumstances require, other hospitals can follow the same general plan, and eventually I have no doubt that several of our existing hospitals will receive the chronic class alone.

As time goes on and the number of the chronic insane in our hospitals gradually increases, the question of hospital provision will apply chiefly to this class. The Willard Asylum for the chronic insane in New York has been so long established that it may be regarded as a success. This institution is so remote from most New York hospitals that it is reached with some difficulty and at considerable expense; but in spite of these great obstacles its wards are filled, and it is constantly adding to its buildings. Massachusetts is so much smaller than New York that transfers from its various hospitals can be comparatively easily and conveniently made.

(3.) Building a private or middle-class hospital. A further means of relief for our hospitals will be the exclusion of private patients. The law allows the reception of this class, but only until such time as the space now occupied by them is required for paupers. Of this class of private patients there were, October 1, 1879, a total of two hundred and seventy-six, the largest number being at Worcester, the smallest at Danvers. The principal argument in favor of the retention of this class in our state hospitals is that they increase the average amount received for patients, thereby reducing the hospital expenses to the State. It is economy to treat them, but otherwise both the hospital officials and the private patients would be better off if they were not received. These patients are, it might be said, outsiders or interlopers, seeking treatment at institutions intended for paupers, because too poor to pay the large prices of private asylums. A hospital should be built especially for this class of paying patients. Dr. Robertson¹ wrote of them sixteen years ago: "I can hardly spare time to tell you of the practical difficulties, not to speak of the personal worry, attending the mixing in one house and under one system of treatment of pauper and private lunatics. . . . For the wealthy all conveniences are open, whether private lodgings with medical men or their own houses, and it is the fault of their friends more than their circumstances if all is not done for them which can be done. For the poor or laboring classes the county lunatic asylum, the hospitals of Bethlehem and St. Luke's, afford great and

¹ *Journal Mental Disease*, January, 1863.

suitable accommodations. But what is there for persons as refined as their richer neighbors, and of education often superior? They cannot afford the former alternative, and are too often compelled to accept the latter, and this at a cost which none but those who witness their sufferings can appreciate."¹ In reference to the same subject Dr. Maudsley² has said: "It is not well to place any one who has become insane in different social conditions from those of his former life. . . . When, therefore, the friends of the insane cannot send them to a private asylum, and these cannot be admitted into the county asylum and are not fit to be at large, the public must do one of two things,—either subscribe money enough to keep such cases in a private asylum, or build a suitable public asylum for them. Of the two expedients, it will evidently be better to adopt the last." Not only Lord Shaftesbury and Drs. Robertson and Maudsley have so expressed themselves, but many other English asylum superintendents. In 1863 Sussex County Asylum at Hayward's Heath had arrived at a crisis, to which we shall soon come, of being so overrun with paupers that no room was left for private patients. Dr. Robertson, the then superintendent, was impelled to speak and write as he did partly, no doubt, from the urgency of the case, but also largely because he felt that the person of refinement and education should not, as a matter of abstract justice, be thrown with the pauper.

Though the need of a private asylum for the moderately well-off class is not so urgent in this country as in England, there is still room for it, and if begun at once it would be ready none too soon to accommodate the two hundred and seventy-six private patients in our state hospitals when they are discharged to make room for paupers. Such a hospital could be built by the State or by private endowment. If the State were to build it, it could do so by issuing bonds or borrowing money. It would undoubtedly be self-supporting, and judging by the experience of some well-managed English asylums would eventually pay for itself. The erection of such a building would be a noble charity, and even as a speculative enterprise would be sure to succeed.

The private hospital can be more elaborately finished than the ordinary hospital, and in its furniture, appointments, and general details can provide many of the little luxuries which, unknown to the average pauper, are of the greatest importance to the more refined and sensitive person from a higher social scale.³

¹ Lord Shaftesbury, quoted by Dr. Robertson.

² *Journal Mental Disease*, October, 1862.

³ The requirements of this class of persons will, no doubt, be partially met by the new hospital which is to be built by the McLean Asylum authorities at Waverly. I understand that this new institution will accommodate two hundred and fifty patients, and will therefore be able to receive a much larger number than at present, and without doubt at a lower rate of board than it can now afford with justice to itself at Somerville.

(4.) Our hospitals should be relieved of insane criminals. All hospital superintendents, both in Europe and in this country, speak strongly against the retention of insane criminals, especially convicts, in ordinary hospitals. They exert a bad influence on other patients, and are both difficult and dangerous to manage. That they must be treated separately is universally agreed, but how best to do it in small States is a puzzling question. It has been suggested that several small States should club together and build criminal asylums. Either this or some other measure will undoubtedly be adopted. How often the two classes are associated together in one ward I cannot say, but the principle of sending convicts to ordinary hospitals renders it possible.

(5.) Inebriates are an even more difficult class rightly to dispose of. Dr. Bucknill¹ says of them: "There are two distinct kinds of drunkards, — the habitual and insane drunkards, — who must be dealt with by different methods, . . . the one form of drunkenness being a mere vice which can be reformed by moral methods. . . . This kind of drunkenness is too wide-spread to be dealt with in asylums or brick-and-mortar institutions of any kind. . . . The other kind of habitual drunkenness is a morbid condition, is in fact a form of insanity. . . . That peculiarity of this malady which permits long remissions of the more marked symptoms renders the insane drunkard an inconvenient inmate of ordinary lunatic asylums, and therefore the proper method of dealing with such cases would be to establish public hospitals for insane drunkards, with salaried officers, under the control of boards of governors and the authority of the commissioners in lunacy."

Both the classes spoken of by Dr. Bucknill are sent to our lunatic hospitals. Often a person is arrested in the middle of a debauch and carried to the hospital. Here he quickly recovers from its immediate effects, and is left a sane man, comparatively speaking, among the insane, to be irritated and annoyed by those around him, and, in his turn, to exercise a pernicious influence, and to brood further over his false imprisonment in an institution for lunatics. The very fact that the inebriate, as a rule, has a greater power of perception and reasoning than the ordinary insane person renders a greater degree of moral control and discipline necessary.

We should have, therefore, a hospital for insane drunkards. This would relieve our other hospitals of a numerous class, and much simplify and diminish the responsibility of our superintendents.

Still another class, namely, epileptics, must still be provided for, but I think special provision can be a long time delayed. The number of this class is large in every hospital, and in New York city and in other places special hospitals are maintained for their treatment. In Massachusetts, however, it seems to me possible to treat epileptics in our gen-

¹ Habitual Drunkenness and Insane Drunkards, preface, page xxi.

eral insane asylums. Separate wards may be given up to them, and in time perhaps a detached block.

I have thus enumerated the buildings which in course of time will be required for our insane. The progress of events will undoubtedly determine when, but a consideration of the question at the present time will only cause a more careful and judicious course to be pursued in the future. Economy is the one word which must guide all future movements in erecting insane hospitals. This economy must be practiced in building. Unfortunately, this policy has not been followed in the erection of some of our recent hospitals, and all of them are now suffering from the reaction of past extravagance. This was shown last winter, when the legislature cut down the weekly amount to be allowed for state paupers in insane hospitals to three dollars. Whether this sum will be sufficient to support this class will be proved in later statistics.

It must not be forgotten that the cost of providing for the insane must always be excessive, for "it has been shown in England, under the supervision of the county and borough magistrates and the guardians of the poor, who administer the funds intrusted to them with the greatest economy, that the average cost of supporting the insane paupers for food, clothing, attendance, and management in the public hospitals is more than three times as great as supporting the sane paupers in the workhouses." In our own State it has been said to be about twice as much.

While our hospitals in this State compare favorably with those abroad in appointments and appliances for treatment and general comfort for the patients, it will not be denied that we are behindhand in original scientific investigations. That so much is accomplished with the present small and overworked staffs is evidence that under a somewhat different system most valuable results would be attained. In the ordinary routine of hospital life little time is found for reading or microscopical examination. The first step in the right direction would be the appointment of a skillful and highly educated pathologist, especially versed in brain histology, and a man who would bring the force, energy, and perseverance to his work now so characteristic of the Germans. Such a man should be employed by the State as pathologist to our lunatic hospitals, and paid a salary that will allow him to devote his entire time to the work. He could make as many autopsies in person as possible, and when not able to be present could have specimens sent him. Each hospital under his direction could start a pathological cabinet and collect microscopical preparations. By careful pathological investigations and exactly kept clinical histories the knowledge of insanity would make definite progress and establish the study of the subject on a scientific basis.

For the carrying out of these views, the importance of which cannot be well overestimated, we need more medical workers in the hospitals. This result can be most advantageously and economically arrived at by the appointment of internes, after the manner of general hospitals. The student would thus acquire not only a practical acquaintance with insanity which would be invaluable to him, but also a general knowledge of disease, the uses of drugs and their compounding, and other necessary information. In a hospital accommodating three hundred patients, beside a staff of superintendent and two assistant physicians, there could be four internes. The internes would attend to minor details, and under the direction of the pathologist spend much time at the microscope, but they would especially write up the medical records, keeping them with great care. The assistants would thus be able to occupy their time, now impossible, almost entirely with the patients, spending hours daily in talking with them and giving them that encouragement and cheering so much needed in almost all cases. When not so engaged, reading and the microscope and recreation would each claim a certain proportion of time.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.¹

BY R. H. FITZ, M. D.

PATHOLOGICAL ANATOMY.

Fatty Heart from Section of the Vagi. — In a series of experiments on birds made by Eichhorst,² it was found that after the vagus nerves were cut death ensued without those inflammatory results occurring in the lungs which follow this operation when performed on dogs and rabbits. On the contrary, a distinct and far-advanced fatty degeneration of the cardiac muscle was observed. This was attributed to a disturbance of nutrition due to the section of trophic nerves in the vagi. A slight similar degeneration of the heart was also noticed when the pneumogastrics of dogs and rabbits were cut, and, when tracheotomy was first performed, the animals thus treated died of cardiac paralysis, without the occurrence of pneumonia. In reply to an objection that death results from starvation rather than from paralysis of the heart arising from fatty degeneration, Eichhorst claims that in starvation death takes place later than when due to vagotomy, and that the changes in the heart in the former instance are due to granular opacity, and not to a fatty degeneration of the fibres.

He also states that increased pulsations of the heart were not of importance in producing the fatty change. When atropine was given

¹ Concluded from page 734.

² Centralblatt für die medicinischen Wissenschaften, 1879, x. 161 and 181.

to the birds in such a way that a prolonged acceleration of the heart's pulsation took place for days, the beat being constantly more rapid than is the case after section of the vagi, not even a trace of fatty metamorphosis was found after death.

Pulmonary Atelectasis.—Lichtheim¹ publishes at some length an account of experiments made with reference to determining the method of origin of acquired atelectasis, and concludes that in those forms experimented upon by him, which comprise that due to closure of the bronchi and that caused by opening the pleural cavity, the atelectasis results from the absorption of the air in the lungs by means of the blood circulating in the pulmonary vessels. A complete absorption of the air can take place only by means of the elasticity of the pulmonary tissue, which both compels the lung to assume the position observed after opening the pleural cavity, and strives constantly to force the air wholly from the lung, thus aiming at a restoration of the foetal condition of this organ.

In human pathology the circumscribed atelectases complicating the bronchitis of young children are considered as undoubted instances of atelectasis from absorption. All the extensive forms resulting from croup and whooping-cough are not regarded as coming under the same head, for competent observers have not always found the respective bronchi to be filled with secretion. The instances, however, where the tubes are plugged form the majority, and these are looked upon as unquestionably due to the absorption of air. Lichtheim would also claim that the atelectatic changes undergone by those portions of the lung lying beneath a pleuritic effusion are due to the absorption of air rather than to a compression of the affected portions by the effused fluid. The latter method may apply to the instances of very abundant effusions under extreme pressure, but in the vast majority of cases the atelectatic portions of the lung in pleurisy become so through the absorption of the air present in them. Those parts of the lung beneath the fluid are unable to follow the inspiratory dilatation of the thorax, and the contained air can no longer be renewed, and must therefore necessarily undergo absorption.

Secondary Changes in Pulmonary Phthisis.—Mindful of the fact that pulmonary alterations result from the section of the pneumogastric as well as of the superior and inferior laryngeal nerves, and that the nerves of an organ degenerate when its function ceases, Kostjurin² determined to examine the pneumogastric, phrenic, and laryngeal nerves in cases of phthisis. The examination of the laryngeal nerves not being completed, the alterations in the former nerves are alone stated.

¹ Archiv für experimentelle Pathologie und Pharmakologie, 1878, x. 54.

² St. Petersburger medicinische Wochenschrift, 1879, xxiv.; Allgemeine medicinische Central-Zeitung, 1879, lxxvi. 965.

In the cervical portion of the pneumogastric nerve certain fibres were decidedly altered, the myeline being transformed into fragments varying in size and shape, such as may be seen in nerves after they have been cut. The myeline was wholly lacking in places. The axis-cylinders occasionally seemed to be slightly enlarged, and in many parts to be entirely absent, while ill-defined bundles of connective tissue replaced the nerves. The more extreme alterations of the pneumogastric nerve were observed in such lungs as had undergone the most extensive destruction. The phrenic nerves from the same patients were but slightly altered, although scanty round drops resembling fat were seen in the coagulated myeline.

The frequent occurrence of a girdling pain in the region of the insertion of the diaphragm led Kostjurin to look for evidence of disease in the corresponding ribs and cartilages. He found the periosteum and perichondrium decidedly thickened, and containing occasional patches of new-formed blood-vessels. In those parts of the cartilage into which this vascular growth had entered the hyaline appearance was absent and the intercellular substance fibrous. The cartilage cells of the affected regions were destroyed, and granular and lymphoid corpuscles were present. It seemed as if the cartilage cells underwent a fatty degeneration and were absorbed.

In addition to the evidences of periostitis, tubercles were seen in the marrow of the ribs in two cases. In three patients ascites was present, without striking changes in the liver, and an examination of the vessels in the great omentum showed a thickening and opacity of their endothelium and almost a complete obliteration of their canal, there being no red blood corpuscles in the arteries and capillaries.

In the cases of phthisis where there was no ascites the omental changes were not noticed, and nearly all the small arteries and capillaries contained a considerable number of red blood corpuscles, so that a dilatation of the normal canal was suggested.

Œsophageal Ulcération from Digestive Fluids.—Quinke¹ reports three cases of ulceration of the œsophagus which presented such anatomical appearances as to persuade him that the ulcers must have been caused by the corrosive action of the gastric juice, and consequently were to be regarded as analogous to the round ulcers of the stomach. The comparative rarity of such ulcers in the œsophagus is manifestly due to the exceptional and usually limited contact of the œsophagus with the gastric fluids. Bloody vomit and dejections, perforation and contractions, occur as in the ulcer of the stomach. It is possible that a simultaneous considerable ascites and obstinate vomiting may assist in the diagnosis.

Lymphangioma of the Stomach.—The occurrence of a tumor con-

¹ Deutsches Archiv für klinische Medicin, 1879, xxiv. 72.

sidered to be of this nature is reported by Dr. Engel-Reimers.¹ The patient died from repeated hæmorrhages due to a chronic ulcer of the stomach near the smaller curvature, this being thickened and contracted in consequence of abundant cicatricial tissue. On the anterior wall of the stomach, near the lesser curvature, there projected from the serous surface a rounded tumor, more than two inches in diameter, composed of a spongy tissue, from the spaces in which there escaped, on section, a milky fluid. The tumor was seated between the peritoneal and muscular coats.

A transition from cavernous spaces to varicose lymph vessels in the serous coat was repeatedly seen on microscopic examination. The absence of any evidence of proliferation at the periphery of the tumor indicated that the latter was rather due to a dilatation of preëxisting lymphatics than to an actual new formation of them. Such a dilatation was considered as due to an obstruction of the larger lymph channels caused by the cicatricial contraction of the smaller curvature of the stomach.

Histological Classification of Fibrous Hepatitis.—The existence of the new formation of bile-ducts in connection with chronic interstitial hepatitis has been frequently observed, and has recently acquired special prominence in consequence of the publications of Charcot and Gombault and Hanot.

Their presence was held as of value in indicating the origin of the interstitial process in the liver from the bile-ducts rather than from the other constituents of Glisson's capsule. Brieger² calls attention to the various affections of the liver in which these new-formed ducts have been seen, as acute yellow atrophy, various forms of interstitial hepatitis, in nutmeg atrophy, and concludes that they do not suffice to determine a special form of cirrhosis. With reference to the importance of the distribution of the connective tissue and its relation to the individual lobules, he admits that in most of the chronic interstitial affections of the liver the connective tissue extends irregularly into the lobules, while in alcoholic cirrhosis and in a case of hypertrophic cirrhosis the tendency was rather to the formation of septa surrounding individual portions of the liver. At the same time the various livers presented so many striking differences that other elements must be sought for in their classification. The relation of the blood-vessels was particularly noticed, and although in the several livers examined there seemed to be a certain uniformity in the development of the process, yet the capillaries of the lobules were thought to play a prominent part in the formation of the connective tissue in an atrophic nutmeg liver, a second of biliary stagnation, and a third of cirrhosis from tubercular peritonitis.

¹ Deutsches Archiv für klinische Medicin, 1879, xxiii. 632.

² Virchow's Archiv, 1879, lxxv. 85.

Bright's Disease and Primary Atrophy of the Kidney.—The following conclusions, arrived at by Rosenstein, are taken ¹ from the programme of the Sixth International Congress at Amsterdam, before which his paper was to be read:—

"First. The anatomical alterations of the kidneys which occur in the disease first clinically described by Bright are always both interstitial and parenchymatous.

"Second. There is neither an exclusively interstitial nor an exclusively parenchymatous nephritis; both portions of the kidney are affected whenever a diffuse inflammation of the kidney has occurred, as may be confirmed by experiment and clinical observation.

"Third. The final result of the diffuse inflammation is the white and the red granular kidney. Both serve as the anatomical basis of the atrophic kidney, and are distinguished from each other only by the fact that the parenchymatous affection predominates in the former, while in the latter the interstitial change is prominent. The two forms may be distinguished clinically as well as anatomically, that is, by the composition of the urine.

"Fourth. Clinical observation makes it probable that a stage of enlargement precedes the so-called primary atrophic kidney or the red granular kidney, and this possibility is not opposed by anatomical evidence.

"Fifth. Bright's clinical description applies mainly to the white granular kidney, and the progress of the disease resulting in this condition may be divided with certainty, both clinically and anatomically, into two stages."

PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. G. CUTLER, M. D., SECRETARY.

JANUARY 27, 1879. *Enlarged Prostate; Dilated and Hypertrophied Bladder.*—DR. LYMAN reported the case and showed the specimen. Mr. —, a gentleman about sixty years of age, of an excessively nervous temperament, large frame, and decidedly prominent abdomen, first called attention quite incidentally during the winter of 1877-78 to an occasional slight annoyance in passing urine. He attached little importance to it, and nothing was done except to tell him that there was probably some slight prostatic enlargement, not unusual at his age.

On the 27th of March, 1878, Dr. Lyman was sent for, and informed that the gentleman was annoyed by passing too much water. His only complaint was that he had to rise two or three times during the night. On examination, the urine was found to be about sixty ounces in quantity in the twenty-four hours; it was very pale and clear, had a specific gravity of 1007, and con-

¹ Wiener medizinische Presse, 1879, xxxiv. 1088.

tained no albumen. Thirst was an annoying symptom. He had neither headache nor nausea, no pain, and *no difficulty whatever in micturition*. At a later period, as the urine continued to increase in quantity and the thirst became more urgent, the secretion being pale, free from deposit, and of low specific gravity, Dr. Lyman considered it to be a case of diabetes insipidus. On the 10th of May the urine was analyzed by Professor Wood, when the specific gravity had become reduced to 1003, and a slight trace of albumen was found. Professor Wood said: "The trace of albumen may be due to an altered condition of the blood or to congestion of the kidney from overwork. Careful microscopic examination fails to reveal the presence of casts."

On the 24th of May two other gentlemen saw the patient in consultation, but no difference of opinion as to the diagnosis was elicited. The only symptoms of which the patient complained were loss of strength and some irritability of the stomach. Three weeks later the patient went to the sea-shore, and was not seen again till November 6th, when he was found to be suffering severely from what were described as rheumatic pains in the right intercostals and the shoulder. When questioned as to his original difficulty, he spoke of it as of no immediate importance. He attributed his pain to a cold and overexhaustion. He had been out on business, and walked for several blocks, a part of the way up-hill. The following day, while examining the thorax, a decided abdominal prominence was accidentally discovered, which on exploration appeared to be a solid movable mass in the umbilical region. This gave rise to no marked inconvenience, and the patient's attention was first called to it by Dr. Lyman. There had never been any vesical pain or feeling of distention, no difficulty in micturition or tenesmus, and no inconvenience, excepting, as already mentioned, eight or ten months previously. The urine had retained the same character.

The patient now showed unmistakable prostration, and a few days later, on November 14th, took to his bed. A slight loss of sensation, which had been noticed for some days in the right hand, became more marked, and there was decided loss of power in the lower extremities, resulting in his falling upon the floor on attempting to get out of bed. He thought it to be a paralytic shock, and was much alarmed, but with a little encouragement was able to assist himself to some extent on being lifted to his bed. Late in the evening of November 15th he was comparatively comfortable, complaining only of his weakness. At midnight, without any warning to the nurse, he ceased to breathe. Dr. Lyman suspected that the tumor felt in the abdomen might be a malignant growth from the kidney, and possibly the explanation of the diabetes. The autopsy was performed by Dr. E. G. Cutler, and was necessarily partial. The bladder was distended with clear, limpid urine; two and one half large wash-bowls were drawn off. The wall of the bladder was greatly thickened. The two lateral lobes of the prostate were very much hypertrophied, and so pressed upon each other as completely to close the urethra. The ureters were both very much dilated, and readily admitted the index finger; this dilatation extended into the pelves and calices of the kidneys. On section, the kidneys were found to be very pale, some of the tubules of the cortex were cloudy, the organs were dense to the feel, and the capsules

stripped readily. The kidneys were of normal size. A microscopic examination showed that the epithelium of the convoluted tubules was a little more cloudy than usual, while the straight tubules were healthy. No casts were found in the tubules, and the interstitial tissue was not increased. Dr. Lyman thought the patient had died of some brain lesion.

DR. MINOT said he had once drawn off five quarts and one pint of urine from a patient with enlarged prostate who had supposed he had already emptied his bladder.

DR. C. D. HOMANS considered that absence of pain and uneasiness was no indication that the disease of the prostate had not lasted a very long time.

Purulent Inflammation of Middle Ear. — DR. J. O. GREEN reported two cases of purulent inflammation of the tympanum to illustrate the importance of early operation where œdema behind the ear occurs as suggesting collection of pus in the mastoid cells: —

CASE I. Mrs. X., widow, had a purulent inflammation of the left tympanum, with perforation of the middle tympanum, for four weeks, following the use of the nasal douche with salt water. The mastoid was slightly œdematous and tender for a few days only, she said; the operation of opening the mastoid cells was proposed, but refused. Two weeks later the operation was done under ether, and a small amount of pus was evacuated, and the mastoid was found to be carious over a space three quarters by one half an inch in extent. Recovery was complete in ten days, with perfect hearing.

CASE II. Mrs. X. had purulent inflammation in the right tympanum for two days from a cold in the head. The membrana tympani was bulging, and incised with perfect relief to the pain and throbbing. The discharge continued, but gradually diminished for three weeks, when, perhaps from a slight exposure, though this is not certain, there was pain in the mastoid, which continued for four days, during which the patient was not seen by Dr. Green; at the end of this time the patient was seen, and there was decided œdema over the mastoid. Immediate operation was advised, but not consented to for another week, when the patient was much reduced by the pain, which had been constant. The operation was done under ether; a large abscess two inches in diameter was found under the periosteum; there was a fistula through the bone one eighth of an inch in diameter, through which the probe passed into the mastoid cells. There had been no pain since the operation, and the patient was then recovering rapidly. The perforation of the membrana tympani had healed, and hearing was quickly restored.

œdema comes on slowly and almost imperceptibly, but when it can be diagnosed with certainty there is almost surely suppuration beneath the periosteum, and the earlier the periosteum is incised the less is the likelihood that the bone will be affected. Fluctuation is very difficult to make out in this region, owing to the inflammation being beneath the strong fibrous insertion of the sterno-cleido-mastoid muscle and beneath the periosteum, and long before pus becomes superficial it is liable to spread and dissect up the tissues for a considerable space, with consequent extensive injury to the bone. In both the above cases there was strong opposition by other physicians to any operation, as they were unwilling to believe that what seemed a slight œdema

only could be dependent on such extensive trouble in the bone. The only safe rule is that laid down by Sir William Wilde thirty years ago, namely, as soon as any redness, swelling, or oedema shows itself in the tissues over the mastoid during the course of a purulent tympanic inflammation to incise the periosteum freely. If suppuration has commenced, the evacuation of the pus is necessary; if suppuration has not occurred, the free bleeding will very likely prevent its appearance. The operation itself is not dangerous, and can do no harm.

Optico-Ciliary Neurotomy. — DR. WADSWORTH showed two patients on whom he had performed this operation.

CASE I. M. S. T., aged fifty-two, a laborer, was wounded in the left eye by a splinter of stone about a year ago. He was under treatment at the City Hospital for three weeks, going out with the eye quiet, but the whole cornea leucomatous. Six months later the cornea began to be prominent, and three months ago the eye became painful, and the sight of the right eye grew weaker. He entered the hospital again January 15th, with the left eye painful, its cornea staphylomatous, opaque, and complaining of sensitiveness of the right eye. On the 17th the left internal rectus was divided, the opening in conjunctiva and capsule enlarged, and the opticus and ciliary nerves divided, the eye being rotated outward, so as to bring the stump of the opticus into full view. The tendon of the internal rectus was reunited by catgut suture, and a bandage was applied. The following night the man, who had been in the habit of drinking liquor freely, was found out of bed and screaming "murder," but he was quieted and slept the rest of the night. On removing the bandage the next day there was very considerable exophthalmos, the lower lid was rolled in a little, and two thirds of the height of the cornea were exposed between the lids. Though the lids could be readily drawn over the globe, they slipped aside so as to expose it as soon as left to themselves, and a bit of linen smeared with cerate was laid under the bandage.

Pain in the eye was relieved immediately by the operation, though there was some tenderness of the lids for two or three days. The anæsthetic cornea was exposed between the lids for several days, and its surface ulcerated somewhat; and at the end of a week, when the exophthalmos had much diminished, the corneal staphyloma had increased. February 1st the exophthalmos had entirely disappeared. The staphyloma was larger than before operation, and the aqueous was evacuated with a paracentesis needle; it has been evacuated in the same way every second day since. Now the cornea is flatter than before operation, and less white, and except for the still existing congestion of the conjunctiva the eye looks better than before operation. Movements are free, but there is slight divergence. There is no pain; the right eye is comfortable, and its vision is good.

CASE II. W. G. M., aged forty-eight, entered the City Hospital January 24th. Two months before he was struck in the right eye by a piece of a fishing rod which he was turning. The sight of the eye was lost at once, and much of the time since he had suffered severe pain in the eye and right side of the head, with much sensitiveness to light in the left eye. On entrance there was an irregularly cicatrized wound at the inner side of the right cornea,

there was no anterior chamber, the pupil was entirely closed. The bulbar conjunctiva was thickened and much congested. There was great photophobia. On the 27th the optic and ciliary nerves were divided as in the other case. Exophthalmos was moderate. There was little pain in the head the following day, none afterward, and the photophobia was relieved immediately. On the second day he had iced compresses over the eye at intervals, and later more constantly. The exophthalmos is now gone, the congestion is much diminished, the movements of the eye are free though forced, convergence is not so great as in the other. The cornea is anæsthetic.

From present experience of this operation, it seems quite as effective for the relief of pain and the avoidance of sympathetic ophthalmia as enucleation, and the anatomical conditions which obtain are such as to make it extremely improbable that reunion of the nerves should take place. The satisfaction which most patients would feel in preserving even a not very handsome eye instead of wearing an artificial one can hardly be overestimated.

COHEN ON DISEASES OF THE THROAT AND NASAL PASSAGES.¹

WE congratulate the medical profession on the possession of this long-expected second edition of Dr. Cohen's treatise. Many changes have been made in the text and illustrations, and much new matter has been added, so that this book now stands easily first in its department in any language. It is a monument of exhaustive reading, conscientious, painstaking work and large clinical experience, and affords a cyclopædia of existing knowledge in regard to throat and allied diseases, and deserves a place in every practitioner's library.

SEILER'S HAND-BOOK OF DIAGNOSIS AND TREATMENT OF DISEASES OF THE THROAT AND NASAL CAVITIES.²

THIS is a convenient little manual for students, of about one hundred and fifty pages. The author naturally has no space to discuss different instruments or modes of treatment, but only sufficient to recommend those which he prefers. Many specialists would choose other instruments and methods. In our opinion, for instance, no head-reflector compares with Türck's for comfort and ease of adjustment, and yet its principle is not mentioned. The rectangular steel forceps of Mackenzie are recommended over all others for the removal of neoplasms. For most cases we do not like them. For haphazard diving after growths they may do, and yet even then their shape makes them awkward to

¹ *Diseases of the Throat and Nasal Passages. A Guide to the Diagnosis and Treatment of Affections of the Pharynx, Esophagus, Trachea, Larynx, and Nares.* By J. SOLIS COHEN, M. D., etc., etc. Second Edition, revised and amended. Two Hundred and Eight Illustrations. New York: William Wood & Co. 1879.

² *Hand-Book of Diagnosis and Treatment of Diseases of the Throat and Nasal Cavities.* By CARL SEILER, M. D., Lecturer on Laryngoscopy at the University of Pennsylvania, etc. Philadelphia: Henry C. Lea. 1879.

introduce. But when an instrument is to be passed cautiously into the larynx, its point being watched in the mirror till it reaches the growth, we think, in the first place, that a catheter-shaped one, which rests firmly on the epiglottis, is preferable; and, in the second place, that one less bright, and hence less capable of reflecting the light, is to be desired. Among tube-forceps no allusion is made to the great improvement of closing the forceps by pushing the tube over them instead of by withdrawing them within the tube away from the object sought. In a word, though a good manual for Dr. Seiler's students, many teachers would not like it for their own. This is not said in disparagement of Dr. Seiler's methods, but in recognition of the fact of the great diversity of practice at present existing in the domain of laryngology.

LEISHMAN'S MIDWIFERY.¹

THIS new edition has evidently been carefully revised by its author. Several new plates have been added, which must atone for the worn appearance of the old plates, which have all been retained. A few only of the notes by Dr. Parry which appeared in the last edition remain, the great bulk of his addition having been, we think wisely, either incorporated in the text of the book itself, or else altogether omitted.

In many respects this edition is a very great improvement on the previous ones. The priority of bimanual version, heretofore given to Dr. Hicks, is rightly ascribed to Dr. M. B. Wright, of Cincinnati. Allusion is also made to Maxson's postural version. We regret that the author still adheres to the use of the straight forceps, but are glad to see that he retains in full Dr. Parry's note in favor of the curved instrument. A brief mention of secondary hæmorrhage has also been added.

The chapters on puerperal septicæmia are far in advance of what the author has heretofore written, and we congratulate him that the day has arrived, to which he rather skeptically alluded in his last edition, when writers on obstetrics are willing to read "puerperal septicæmia" for "puerperal fever," although we are sorry to see that he yet occasionally, and we think inconsistently, uses the term puerperal fever, as though he were still dealing with a specific puerperal poison. We notice an absence of any mention of the value or use of intra-uterine injections in these cases, and must regard his treatment of this class of cases as deficient in many respects.

No allusion is made in the work to those rare cases of contraction of the internal os which have been recently so graphically described by Bandl and Hosmer, and which are now clearly admitted by obstetricians to be a most formidable complication of labor. The book, however, is greatly improved, and as such will be welcomed by those who are trying to keep posted in the rapid advances which are being made in the study of obstetrics.

¹ *A System of Midwifery.* By WM. LEISHMAN. Third American edition, revised by the author, with additions by J. S. PARRY. 1879. Pp. 732. Philadelphia: Henry C. Lea.

ANÆSTHESIA UNDER PRESSURE.

THE administration of pure nitrous oxide gas, which, as is known, is used under ordinary atmospheric pressure, can be employed only in operations of short duration, for asphyxia threatens the patient as soon as sensibility disappears. This method, therefore, has heretofore remained almost exclusively in the hands of dentists. The *Lancet* of October 4th, however, gives interesting details of experiments by the distinguished M. Paul Bert, in which he used a mixture of nitrous oxide and oxygen in an air-tight chamber, in which was maintained a pressure a little greater than that of the air. M. Bert has gone further than this, and his observations, in which the subject is transferred from the domain of mere experiment to that of practical surgery, were recently communicated to the *Académie des Sciences*. In his first observation he described the removal of a nail by M. Labbé. The patient was a young girl, timid and nervous. In a closed chamber of sheet-iron the atmospheric pressure was increased .17 m. (total pressure, .92 m.). The patient lay upon a mattress; the nose-piece of the apparatus employed for the administration of pure nitrous oxide was connected with a bag containing a mixture of eighty-five parts nitrous oxide and fifteen parts of oxygen.

Previous to the administration the pulse was rather rapid, when suddenly, ten or fifteen seconds after the first inhalation, without change in the pulse respiration, or color of the skin, without agitation or excitement, the arm became thoroughly flaccid, insensibility and muscular relaxation were complete, and the cornea was insensible to the touch. The operation was begun and finished without movement on the part of the patient, who remained in a calm sleep, the pulse having fallen to the normal frequency. At the end of four minutes, when the operation was over, slight contractions occurred in one arm, then in one leg. The patient continued to sleep for thirty seconds, and was then easily awakened. She stated that she felt well, but very hungry. She was able to walk, took food almost at once, and complained of no disagreeable consequences.

The difference between the effects of this anæsthetic and those of chloroform and ether is strikingly shown by the quickness with which anæsthesia was produced and the speed of its disappearance.

Other more important operations were performed by M. Péan, namely, three amputations of the breast, four operations upon bone, six extirpations of tumors, a resection of the infra-orbital nerve, two reductions of dislocations of the shoulder of three or four days' standing. Anæsthesia was maintained during periods varying from four to twenty-six minutes. The time occupied in producing anæsthesia was from fifteen seconds to two minutes. Complete return of sensibility commonly took place in one minute. In one case a partial return of consciousness occurred. The patient began to talk, but felt no pain. One inhalation arrested her speech. After recovery she did not remember the incident. If at the outset the pulse were quickened, it resumed the normal frequency when anæsthesia was established. In three cases there was slight nausea, due, however (as supposed), to new india-rubber mouth-pieces or bags employed in these particular cases. A more frequent and unpleasant accident

is the appearance of spasm in the limbs. M. Bert is certain that this was due to insufficiency of the pressure under which the gas was administered.

The summing up of the advantages of this method as claimed by him may be seen in the *Lancet* for October 4th. But as this journal remarks, "his estimate of its relative advantages, however, must be considerably modified if we compare it, not as he does, with pure nitrous oxide, but with the mixture of this gas and ether, which Mr. Clover has found so valuable, and which possesses several of the advantages of Bert's method, to which the necessity for an air-tight chamber is a serious drawback."

The method should be investigated and fairly tested, especially so because it appears to be devoid of all danger and disagreeable after-effects to patients. It would seem, however, as if the necessity of having an air-tight chamber would prove the great obstacle to M. Bert's discovery.

MEDICAL NOTES.

—The American Public Health Association held its seventh annual session last week. A large number of very valuable and interesting papers were read. The address, by the president, Dr. Cabell, was a history of the work done by the National Board of Health. Papers by Colonel Waring, and Mr. Eliot C. Clark, were read. Dr. Thompson, of the Memphis Board of Health, gave an interesting account of the late epidemic. Dr. Gihon read an article on The Protection of the Innocent and Helpless Members of the Community from Venereal Diseases and their Consequences, which was received with great favor. Dr. Billings was elected president for the ensuing year, a well-merited compliment for his brilliant services in the cause of health. It was voted to meet in New Orleans in 1880.

—"Syphilis," says Dr. Podolinski, in a communication to the Medical Congress of Montpellier, "is the principal scourge of the rural populations of nearly the whole of Russia, but its ravages are greatest in the south. In some villages one third of the families are contaminated. Heredity and marriage are the principal means of its propagation, but special causes exist, especially in the government of Kiew, where there are beet-root plantations and manufactories of sugar, but a dearth of workmen. The employers therefore promote artificial increase of population by offering such attractions that young people leave their families for the plantations, where they are excited by music and intoxicating drinks, every opportunity being offered for unrestrained intercourse of the sexes. At the end of the season the girls return to their homes tired, demoralized, and diseased.

—The managers of the morgue in Paris are bringing into use a freezing apparatus which will enable bodies brought for identification to be kept a considerable time. Since the beginning of the year the morgue has been used for practical demonstrations in connection with the chair of legal medicine. This teaching attracts many foreign students. Could it not be adopted in Boston to a limited extent under the medical examiner system?

—The following resolutions were presented October 30, 1878, and adopted by the American Academy of Dental Science:—

Resolved, That the use of public prints for advertising pretended professional merit is derogatory to the dignity of the profession, and should be strongly discountenanced by its members.

Resolved, That among regular practitioners any disparagement of their Fellows to patients or the public is a serious infraction of true ethics, tends to lower the profession in public estimation, and to debase the individual detractors, and should be condemned by all who have the best interests of the profession at heart.

NEW YORK.

— The Board of Apportionment has assigned \$1,294,183.34 for the running expenses of the Department of Charities and Correction, and \$236,000 for those of the Health Department during the year 1880.

— The annual meeting of the Medico-Legal Society was held at the Academy of Medicine November 5th, when the retiring president, Mr. George H. Yeaman, and the president-elect, Dr. Charles S. Wood, delivered valedictory and inaugural addresses. After these followed an interesting discussion on a paper read by Dr. R. J. O'Sullivan at the previous meeting, the subject of which was State Medicine, The Relations of the Professions, Responsibility of Civic and Educational Authorities in the Promotion of Public Health.

— At the seventy-fourth annual meeting of the New York County Medical Society Dr. John C. Peters, chairman, read an extended report from the committee on hygiene, which contained many points of interest. During 1879 small-pox has been more prevalent than usual, although not at any time alarming in its extent. For the first nine months of 1878 there were only two deaths from the disease in the city, and as there were none at all in 1877, the total mortality from it for the two years was unprecedentedly small. The disease broke out in April of the present year in an obscure tenement house in Third Street, and one child died from it before the health authorities were advised of its existence. The child did not contract the disease in the city, but was seen at the beginning of the attack, it is believed, by a physician who neglected to report the case. From this case as a focus the contagion spread gradually, until sixty-four cases had been reported, of which no less than thirty-four proved fatal. The incident was not without beneficial results, however, in awaking the poorer classes to the necessity of having their children vaccinated, and during the first nine months of the year 39,574 vaccinations were performed by the vaccinating corps of the board of health. Bovine virus is now used exclusively by the corps, as it is believed that it is more efficient as a preventive than humanized, while it is not open to the objection of communicating other diseases. The mortality from typhoid fever has been notably less than in preceding years, and the same is true of typhus fever. From the figures presented by the death-rates from these diseases during the last few years, Dr. Janeway, of the health board, argues that the stringent sanitary control exercised by the board over the tenement houses and their population is beginning to be felt in decreased rates of mortality from preventable causes. Diarrhoeal diseases have also been steadily decreasing in number since 1876, when the mortality from this source was 3060. The decline began with the summer excursions and other agencies for getting children into the country for

a longer or shorter time in 1877, the mortality for that year having been 2657. Last year, with a better organization of such facilities, the deaths were over 600 less than in the year preceding, a diminution which Dr. Janeway ascribes in a great measure also to the work accomplished by the extra corps of physicians employed by the board of health to make house-to-house visits in the tenement districts during the summer. The mortality from whooping-cough and scarlatina, on the other hand, has been considerably greater than usual. During the first nine months of 1879 there were 466 deaths from the first disease, and the number of deaths from the second, 1370, is greater than for many years previous. In the same period of 1878 there were 741 deaths; of 1877, 781; of 1876, 693; of 1875, 415; of 1874, 730; of 1873, 736; of 1872, 302; and of 1871, 608.

Dr. Peters also read the report of the committee appointed to solicit aid for the families of physicians who had died from yellow fever during the prevalence of the disease in the various cities of the South in 1878 and 1879. The total amount received by Dr. Peters for the purpose named was \$4998.10, of which he has distributed \$3700, leaving a balance of \$1298.10. The number of physicians who died during the epidemic of 1878 was 101. Dr. Peters read several letters from physician's widows who had been aided by the fund, and stated, in conclusion, that the money on hand would all be properly applied in a short time. Dr. Farnham, from the same committee, reported the receipt of \$1158 for the same purpose, all of which had been expended.

— A physician of this city recently forwarded to the Bureau of Vital Statistics a certificate of death from acute capillary bronchitis of a man employed in the manufacture of harness mountings. The certificate, in which it was explained that the disease was caused by the inhalation of the fumes of nitric oxide during the processes of electro-plating, was sent to Sanitary Superintendent Day, who has detailed one of the inspectors of the board of health to make an investigation of the electro-plating business, the object being to collect data upon which to base a report urging such changes in the processes as may prevent the inhalation of poisonous fumes.

ST. LOUIS.

— On the 9th inst. Dr. Thomas Kennard died in this city of cirrhosis of the liver. He had suffered from the usual symptom, ascites, for nearly two years. He was an ex-president of the St. Louis Medical Society, had practiced in St. Louis for the past nineteen years, and held a high position in the profession. He was a native of Maryland, and his remains were taken there to be buried.

BOSTON CITY HOSPITAL.

SURGICAL CASES OF DRS. INGALLS AND GAY.

[REPORTED BY W. H. HOLMES, M. D., HOUSE SURGEON.]

Compound Comminuted Fracture of both Femurs; Recovery. — On September 28, 1878, Philip C., aged thirty-one, fell under a horse-car, and its wheels passed over both thighs. There was found to be a compound comminuted fracture of each femur just above the condyles. On the left there was a wound

about one inch long over the anterior portion of the lower third, and one of nearly the same size over the corresponding point behind. On the right thigh there were three wounds, about an inch long, on the anterior, anterior and outer, and posterior sides of the lower third. The patient being etherized, Dr. Gay sealed the wounds with compound tincture of benzoin, put the legs in long fracture boxes, and packed the thighs up with oakum. No food was given on account of vomiting. Shock of injury moderate. Pulse 78, and of fair strength. The patient was anæmic and feeble.

For several days he was nourished by the rectum, as he vomited whatever he swallowed. He was unable to pass his urine, which was drawn with a catheter. On the seventh day the fracture boxes were removed, and hamp-splints applied. On this day a slight discharge was noticed from one of the wounds. On the fourteenth day an extension of one and one half pounds on right leg, and of three pounds on left, was applied. The condition of the patient continued steadily to improve, and in the twentieth week all apparatus was removed, and a flannel bandage applied. There was good union in both femora, but very slight motion in hips, knees, or ankles. Passive motion applied daily to joints. He was discharged from the hospital April 28, 1879. He was then able to walk down the ward holding on to the beds. There was good union on each side. The ankle, knee, and hip joints were slowly regaining motion. When last heard from he was able to walk with the aid of a cane.

Foreign Body in Bladder; Lithotomy; Recovery. — June 20, 1879, Thomas H., aged forty-seven, introduced the stem of a glass tobacco-pipe, one fourth of an inch in diameter, into his urethra for the purpose of emptying the bladder. When, as he thinks, the tube had nearly reached the bladder it broke, leaving a piece an inch and a half long in the urethra. A physician was called, who, to relieve the retention, passed a catheter, forcing the piece of glass into the bladder. The patient suffered some pain in the bladder, but at no time was it excessive, nor was the urine bloody. Ten days after the accident the patient entered the City Hospital in the service of Dr. Ingalls. A hard body could be felt in the bladder by the sound, and a sharp click was elicited. The third day after admission, the patient being etherized, Dr. Ingalls tried to withdraw the foreign body by a lithotrite, but though it was caught hold of it could not be drawn out. Two days later Dr. Ingalls performed lateral lithotomy, and extracted the piece of glass; there was a slight crust of triple phosphate upon it. On the day after the operation there was a prolapsus of a portion of the rectum, larger than the end of a thumb, folding over the posterior angle of the wound. This was reduced at once by the finger, but soon reappeared; it was touched once with lunar caustic, steadily grew smaller, and by the end of three weeks there was no protrusion. On the twenty-fifth day after the operation urine no longer passed through the wound, and on the forty-fifth day the wound had healed, and the patient was discharged well.

Compound Dislocation of Elbow; Recovery. — On the evening of June 24, 1879, Annie M., aged thirty-six, while drunk, fell down four steps of a flight of stairs, and injured her right elbow. On entrance there was found to be a compound backward dislocation of radius and ulna. There was a lacerated wound three inches long on the inner side of elbow, through which the ends

of the bones could be seen and felt. The soft parts about the elbow were much bruised and lacerated. There was also a fracture of the radius just above the wrist. As Dr. Ingalls was absent, Dr. Homans saw the patient, and advised immediate amputation or resection, to which the patient would not consent. Dr. Homans then reduced the dislocation, the patient being etherized. The wound was packed with charpie soaked in carbolic oil, and a rectangular external splint applied. The second day the elbow was much swollen and the wound offensive. Dr. Ingalls advised amputation or excision, but the patient declined any operative interference with the joint. Contrary to expectation, from this time the condition of the arm steadily improved, the only complication being the formation of an abscess on the inner side of the fore-arm, just below the elbow, which discharged through a spontaneous opening into the original wound. There was considerable discharge for about three weeks. On the forty-third day the opening had healed, and the arm was put in a stiff bandage, the elbow being flexed at a right angle. The Colles's fracture received no treatment but rest. The patient was discharged on the forty-eighth day, with the bandage still on. Two weeks after her discharge she had the stiff bandage removed in the out-patient department. The fore-arm could not be flexed or extended, but the hand could to a slight degree be supinated and pronated. There was some inward projection of the lower end of the ulna. There was considerable motion at the wrist. When last seen she could make but little use of her hand or arm.

October 4th, eighty-eight days after the accident, the arm was examined, and arm and hand were found in about the same condition as above indicated. The patient declared that she suffered much pain throughout the limb, and that little bits of bone had come away. If this be true, they must have come through the yet tender cicatrix which soon closed after their passage.

POISONING BY CORROSIVE SUBLIMATE AND BY CARBOLIC ACID.

MR. EDITOR,—Two cases of poisoning have come under my immediate notice. In one I was permitted to make a post-mortem examination, which may render a report useful. The other case, as it was from carbolic acid, about which as a poison little seems to have been said, may serve to impress upon your readers a very important property of this drug.

Both the cases occurred at the St. Louis Female Hospital, under the care of Dr. P. V. Schenck, resident physician, and myself, assistant physician. One of the patients, Alice W., who was convalescing from intermittent fever, complained of constipation, and a dose of sulphate of magnesium was ordered. The nurse had solutions of sulphate of magnesium and of corrosive sublimate in similar bottles, but plainly labeled; by mistake, however, she gave the mercuric salt in a dose of about sixty grains.

I saw the patient probably within twenty or twenty-five minutes after the poison was taken. She had vomited freely, but large quantities of water and milk were given, and emesis produced, which was further encouraged by sulphate of zinc and ipecac. About an hour and a half after the accident, Dr.

Schenck, who had been absent upon business, returned, and two ounces of the white of eggs were given every ten minutes, till about twelve ounces had been taken.

Some three or four hours after the poison was administered there was an abundant discharge of urine and several evacuations of her bowels. The patient suffered little pain, and the following day her recovery seemed almost certain. The third day she was very weak, vomiting set in, and she seemed sinking. Bismuth in thirty-grain doses was given by the mouth; enemata of milk and whisky, two ounces each, were given every two hours, and hypodermic injections of tincture of digitalis when the heart's action grew weak.

The symptoms which characterized the case were suppression of urine, insomnia, and loss of appetite; only after several days was any abdominal tenderness developed.

Dr. Boisliniere was called in, and the acetate and chlorate of potassium were added to our treatment. Warm fomentations were applied over the hips and abdomen, and also leeches over the kidneys. I was told a small flow of urine followed the use of the leeches. Tincture of digitalis stupes were also used. On the morning of the sixth day two drachms of the fluid extract of jaborandi were ordered every hour till the patient perspired. About six P. M. she began to perspire, and the jaborandi was stopped; two hours later she died in convulsions, probably uræmic.

The post mortem was made twenty-seven hours after death. There were no signs of decomposition. There was marked hypostatic congestion of the lungs. The heart was relaxed and flabby. The œsophagus and cardiac extremity of the stomach were very much congested, but there were no signs of ulceration. The alimentary tract was not opened farther, but appeared to be congested, especially the small intestines. I had no means of weighing the kidneys, but they were from one third to one half larger and heavier than normal. They had not their usual flattened appearance, but were so distended with blood as to be nearly cylindrical, and upon section the blood could be squeezed from them in large quantities. The bladder was empty.

The post mortem pointed plainly to uræmia, produced by congestion of the kidneys, and that the best treatment would have been extensive local depletion. It is also possible that we erred in giving so large a quantity of albumen, as the insoluble compound formed by mercury and albumen is soluble in an excess of albumen. It might have been better to have induced vomiting every few minutes while the eggs were being administered.

Shortly after the patient died the nurse who had made the mistake went to her room, locked the door, and took about two ounces of carbolic acid. From the time she was seen alive till her door was broken open was not more than ten or at the most fifteen minutes. During this time she seems to have washed and dressed herself, and arranged herself very carefully on the bed, and then to have taken the poison. I was the first to enter the room, and immediately felt for her pulse, but was unable to find it. She gasped once or twice afterwards, but otherwise was motionless. Her death was so sudden that at first we thought she had taken prussic acid, but it proved to have been carbolic acid. The mouth and tongue were stained with it, and the bottle which had contained it was in the room empty. Unfortunately, no post mortem was

allowed, but we suppose that she died from cardiac paralysis due to shock. Dr. H. C. Wood mentions in his treatise on *Materia Medica and Therapeutics* that carbolic acid has produced death almost as quickly as prussic acid.

M. HAYWARD POST.

ST. LOUIS.

SHORT COMMUNICATIONS.

GRITT'S SUPRA-CONDYLOID AMPUTATION OF THE THIGH.

In the *Medical Record* for April 12, 1879, is a paper entitled as above. In that paper it is recorded that Dr. Gouley, then an assistant surgeon in the United States army, performed a similar operation on a wounded soldier, December 13, 1862, the day of the battle of Fredericksburg. It was believed by the operator to have been an original operation, and also to have been the first of the kind performed in America. But in this connection it may be of interest to relate the following:—

After the battle of Antietam (September 17, 1862) it was determined to establish upon that battlefield a hospital for such severe cases as could not be conveniently removed to the general hospitals. Dr. Bernard Van der Kieft, United States volunteer surgeon, was detailed surgeon in charge of this hospital. Among the patients was a soldier with an amputation of the right leg. After some weeks it was found that the leg must be amputated at or above the knee-joint. Dr. Van der Kieft decided to amputate at the knee-joint by "a new operation" (as he said), and the operation was certainly new to his associates and assistants. He made a circular incision from the internal tuberosity of the tibia across the leg below the patella to the head of the fibula, dissected this flap up to about the middle of the patella, cut through the ligamentum patellæ close to the lower border of the bone, and turned back the flap. He then made the posterior flap by passing the knife beneath the femur, and cutting outward and downward. He then sawed through the femur just above the condyles, and removed a section from the posterior or internal surface of the patella by the saw. Next he adjusted the sawn surface of the patella to the sawn extremity of the femur, and adjusted the flaps in the usual manner. The patient died in about sixteen hours, on account of previous exhaustion.

In a few days the writer was ordered to his regiment (Fifth New Hampshire Volunteers), and was at the battle of Fredericksburg, December 13, 1862. The journey from Antietam to Fredericksburg required two days; hence Dr. Van der Kieft's operation was performed as early as the 9th of December, 1862.

I write this in justice to the memory of Dr. Van der Kieft, who is now dead. It detracts nothing from the fame of Dr. Gouley, affords me the great satisfaction of doing honor to my friend and superior officer, and places upon record another fact in surgical history.

It thus appears that Dr. Van der Kieft performed the second or third operation of the kind ever performed, and the first in America.

WILLIAM CHILD, M. D.,

BATH, N. H., November 6, 1879.

Late Surgeon Fifth Regiment N. H. Vols.

NEW PREPARATIONS.

A NEW AND CHEAP WATER-PROOF TISSUE.

SOME years ago Dr. W. W. Keen, of Philadelphia, introduced into St. Mary's Hospital of that city a sort of waxed paper, then in the market, as a substitute for the more expensive oiled silk, gutta-percha cloth, etc. In many ways the paper was unsatisfactory. It was not water-proof, it absorbed the discharges of wounds, etc., it tore easily, etc. Last winter Dr. Keen requested Senbury and Johnson, of New York, to make for him a paper coated with a combination of paraffine and rubber. They did so with such success that the new "water-proof paper" will undoubtedly replace every possible article of similar nature heretofore used. Upon receiving a sample of the paper, prepared according to his directions, Dr. Keen subjected it to severe comparative tests, the articles brought in competition being oiled silk, oiled muslin, taffeta oiled silk, paraffine paper, waxed paper, and gutta-

percha tissues. Not a single one of these materials was able to bear all the tests through which the water-proof paper passed easily and successfully. In consequence, Dr. Keen claims that this paper (1) is impermeable to water after an exposure of at least seventy-two hours, and even after being repeatedly crushed and crumpled in the hand; (2) that it is impermeable to air, even when bruised; (3) does not absorb water or discharges; (4) that it may be used with the hottest dressings which can be borne; (5) that, although very flexible, it is strong enough for all ordinary wear, especially since it will be used only once; (6) that its cost is many times less than that of other similar dressings. What these tests were may be seen by reference to the *Philadelphia Medical and Surgical Reporter* for April 19, 1879, in which Dr. Keen's interesting account may be found.

This paper will prove valuable in all surgical dressings, and in the Lister method will be extremely economical as a substitute for the mackintosh cloth. The latter is not used because of its thickness, but simply because impervious to air. In this respect Dr. Keen's paper is equally serviceable. We call the attention of our readers to this very valuable addition to surgical and medical appliances, as its existence and usefulness are not generally known. Seabury and Johnson, at Dr. Keen's request, are now experimenting with a much heavier paper, which it is hoped will replace rubber blankets in cases of labor, typhoid fever, etc.

The price of the surgical "water-proof paper" is four dollars for a roll of one hundred yards. Messrs. Codman and Shurtleff and Leach and Greene have ordered a supply of this paper. The paraffine and waxed papers to be found in apothecary shops must not be mistaken for the water-proof paper. In comparison they are worthless.

REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 15, 1879.

Cities.	Population estimated for July, 1879.	Reported Deaths in each.	Deaths under Five Years.	Percentage of total Deaths from					
				The Principal Zymotic Diseases.	Diphtheria and Croup.	Lung Diseases.	Scarlet Fever.	Diarrhoeal Diseases.	
New York.....	1,085,000	503	186	17.89	5.96	19.88	.99	5.77	
Philadelphia.....	901,380	287	89	13.24	10.10	5.92	.35	—	
Brooklyn.....	564,400	217	88	22.12	13.36	17.05	.92	.92	
Chicago.....	—	145	60	37.93	19.31	8.97	11.04	2.76	
St. Louis.....	—	96	38	18.75	6.21	6.25	1.04	4.16	
Baltimore.....	393,796	137	51	24.09	9.49	5.11	5.11	1.47	
Boston.....	360,000	160	53	29.38	16.25	6.88	3.75	2.60	
Cincinnati.....	280,000	83	30	18.07	8.43	13.25	6.02	1.20	
New Orleans.....	210,000	111	—	12.61	.90	12.61	—	4.50	
District of Columbia...	170,000	66	15	14.29	5.36	5.36	—	5.36	
Cleveland.....	160,000	43	24	41.67	12.50	6.25	18.75	4.17	
Pittsburgh.....	—	70	—	51.43	31.43	8.57	1.43	7.14	
Milwaukee.....	127,000	39	18	28.21	23.08	5.13	—	—	
Providence.....	101,500	45	8	35.65	8.89	2.22	24.44	—	
New Haven.....	60,000	16	3	12.50	6.25	6.25	—	6.25	
Charleston.....	57,000	35	10	14.29	8.57	2.85	—	2.85	
Nashville.....	27,000	10	—	30.00	10.00	30.00	—	10.00	
Lowell.....	53,300	17	5	11.76	5.88	11.76	5.88	—	
Worcester.....	52,500	12	4	8.33	8.33	—	—	—	
Cambridge.....	50,000	20	6	5.00	5.00	20.00	—	—	
Fall River.....	48,500	17	7	17.65	5.88	—	11.76	—	
Lawrence.....	38,200	9	5	11.11	11.11	—	—	—	
Lynn.....	34,000	16	7	37.50	31.25	—	—	—	
Springfield.....	31,500	5	—	—	—	—	—	—	
New Bedford.....	27,000	15	6	25.67	20.00	—	6.67	—	
Salem.....	26,400	10	5	40.30	30.00	20.00	—	—	
Somerville.....	23,350	6	1	—	—	16.67	—	—	
Chelsea.....	20,300	8	—	—	—	—	—	—	
Taunton.....	20,200	3	—	—	—	—	—	—	
Holyoke.....	18,200	5	3	60.00	—	—	60.00	—	
Gloucester.....	17,100	9	3	11.11	—	22.22	—	—	
Newton.....	17,100	8	3	12.50	12.50	37.50	—	—	
Haverhill.....	15,300	7	—	42.86	28.57	—	—	—	
Newburyport.....	13,500	6	2	16.67	—	33.33	—	—	
Pittsfield.....	12,650	—	—	—	—	—	—	—	
Fitchburg.....	12,500	3	—	—	—	—	—	—	
Milford.....	9,800	0	—	—	—	—	—	—	

Two thousand two hundred and twenty-nine deaths were reported: principal "zymotic" diseases (small-pox, measles, diphtheria and croup, diarrhoeal diseases, whooping-cough, erysipelas, and fevers) 490, consumption 344, lung diseases 247, diphtheria and croup 236, scarlet fever 76, diarrhoeal diseases 64, typhoid fever 45, malarial fevers 24, whooping-cough 17, measles 13, cerebro-spinal meningitis seven, erysipelas six, small-pox one, yellow fever one. From *typhoid fever*, Baltimore nine, Philadelphia and Boston seven, Chicago four, Brooklyn and St. Louis three, New York, District of Columbia, and Pittsburgh two, Cincinnati, New Orleans, Cleveland, Providence, Gloucester, and Newburyport one. From *malarial fevers*, New Orleans seven, New York six, St. Louis four, Brooklyn and Milwaukee two, Baltimore, Cleveland, and Charleston one. From *whooping-cough*, New York five, Brooklyn and Boston four, Cincinnati, Cleveland, Pittsburgh, and Salem one. From *measles*, New York nine, Brooklyn and Chicago two. From *cerebro-spinal meningitis*, New York two, Philadelphia, Chicago, Baltimore, Lynn, and Haverhill one. From *erysipelas*, Brooklyn four, New York and Nashville one. From *small-pox*, New York one. From *yellow fever*, St. Louis (colored steamboat man).

The meteorological record for the week in Boston was as follows:—

Date	Barom-eter.	Thermom-eter.		Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. ¹			Rainfall.	
	Mean.	Mean.	Maximum.	7 A. M.	2 P. M.	9 P. M.	Mean.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	7 A. M.	2 P. M.	9 P. M.	Duration.	Amount in inches.
		Minimum.																
Nov. 9	30.168	59	67	46	86	55	76	72	SW	SW	SW	9	25	12	O	F	O	—
" 10	30.169	53	63	44	94	35	62	64	SW	NW	N	10	15	3	F	F	C	—
" 11	30.166	46	51	40	65	62	70	66	NW	SE	S	4	6	8	F	F	O	—
" 12	29.767	59	69	46	86	65	87	79	W	W	SE	3	6	4	F	F	G	—
" 13	30.139	42	52	40	100	83	100	94	N	NE	0	19	10	0	O	O	R	0.11
" 14	30.076	51	57	40	92	80	87	86	0	S	0	0	7	5	O	O	O	0.02
" 15	29.590	65	69	57	94	65	78	79	SW	SW	SW	8	16	25	O	O	O	0.02
Week.	30.009	54	68	45			77		SW		1622 miles.						17.13	.51

¹ O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., snow; R., rain; T., threatening.

For the week ending October 25th, in 149 German cities and towns, with an estimated population of 7,501,406, the death-rate was 23.7 against 23.8 of last week. Three thousand four hundred and eighteen deaths were reported: consumption 425, diarrhoeal diseases 320, acute diseases of the respiratory organs 281, diphtheria and croup 138, typhoid fever 85, scarlet fever 79, whooping-cough 63, measles 30, puerperal fever 18, small-pox one. The death-rates ranged from 13.7 to 39.

For the week ending November 1st, in the 20 English cities, with an estimated population of 7,383,999, the death-rate was 21.9 against 22.1 of the previous week. Three thousand one hundred and three deaths were reported: scarlet fever 154, measles 79, diarrhoea 77, whooping-cough 58, fever 49, diphtheria 24, small-pox one (London). The death-rates ranged from 13.9 to 25.8. In the Belgian cities, diarrhoea continues, typhoid fever is less, and small-pox and scarlet fever are increasing. In Switzerland diarrhoea has fallen to less than half of last week's report, and small-pox caused three deaths.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U. S. ARMY, FROM NOVEMBER 15, 1879, TO NOVEMBER 21, 1879.

BAILY, E. J., lieutenant-colonel and surgeon, medical director of the department. Granted leave of absence for one month. S. O. 157, Department of the Columbia, November 3, 1879.

MEACHAM, FRANK, captain and assistant surgeon, Fort Brown, Texas. Granted leave of absence for one month. S. O. 236, Department of Texas, November 8, 1879.

CARVALLO, C., captain and assistant surgeon. To report in person to Col. Albert G. Brackett, Third Cavalry, commanding troops at Rawlins, W. T., for duty with his command. S. O. 102, Department of the Platte, November 10, 1879.

SMITH, R. E., first lieutenant and assistant surgeon. Granted leave of absence for four months from December 1, 1879. S. O. 250, A. G. O., November 15, 1879.

THE GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held at the Medical Library Rooms, first Thursday of December, at 10.30 o'clock, A. M. Paper by Dr. Ephraim Cutter on The Treatment of Uterine Fibroids by Electrolysis and by Food as a Medicine. The profession are invited.

HENRY M. FIELD, M. D., *Secretary*.

ERRATA. — On page 731, No. 21, of the JOURNAL, lines 19 and 22, "pepsin" should read "peptone." Page 751, JOURNAL November 20th, 17th line, for "ingeniously" read "ingenuously."

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting will be held Monday evening, December 1st, at the hall of the Medical Library Association, 19 Boylston Place, at eight o'clock. Reader, Dr. E. M. Buckingham. Subject, *Difficult Dentition*.

FREDERICK C. SHATTUCK, M. D., *Secretary*.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at the hall, No. 19 Boylston Place, on Saturday evening, November 29th, at seven and a half o'clock. The following papers will be read: Dr. E. W. Cushing, *Epidemics in Summer Hotels*; Dr. C. E. Wing, *Gynæcological Cases in Practice*. Supper at nine o'clock.

BOOKS AND PAMPHLETS RECEIVED. — A Text-Book of Physiology. By M. Foster, M. A., M. D., F. R. S., Prælector in Physiology and Fellow of Trinity College, Cambridge. With Illustrations. Third Edition, revised. London: Macmillan & Co. 1879. (From A. Williams & Co.)

A New Theory in the Mechanism and Proper Treatment of Uterine Displacements. By George Cowan, M. D., Danville, Ky.

The Terminology of So-Called Rubeola, not Roseola. By Benjamin H. Riggs, M. D., Selma, Ala. (Reprint.)

An Examination of the Usual Signs of Dislocation of the Hip. By Oscar H. Allis, M. D., Surgeon to the Presbyterian Hospital, Philadelphia. 1879.

Vivian the Beauty. By Mrs. Annie Edwardes. Appleton's New Handy Volume Series. New York: D. Appleton & Co. 1879.

Emotional Fever. By Andrew Fleming, M. D., Pittsburg, Penn. Philadelphia. 1879.

The Riviera. Sketches of the Health Resorts of the North Mediterranean Coast of France and Italy from Hyères to Spezia. By Edward S. Sparks, M. A., B. M. Oxon., Fellow of the Royal College of Physicians, etc. London: J. and A. Churchill, New Burlington Street. 1879.

Annual Catalogue of Hartsville University, 1878-79.

Some Recent Opinions concerning the Development of the External Ear Passages. By David Hunt, M. D. (Reprint.)

Medical Register for New England. By Francis H. Brown, M. D. New Edition, much enlarged. Boston: Houghton, Osgood & Co. Cambridge: Riverside Press. 1879.